

drops of an aqueous solution of chloral, twenty-five grammes to the hundred. At first there is only a little agitation, but at the end of twelve to fifteen minutes there is trouble in movement, the animal trembles, his head oscillates from right to left and *vice versa*, the extremities move with uncertainty, the animal falls on his side—generally on the side operated on; later, there is pronounced rotation of the head about the axis of the body. At the end of some hours the disturbances are more marked, and attain their maximum on the next day; then the animal rotates upon itself with violence, as after an injury to the middle cerebellar peduncle, the two eyes execute extended movements of vertical nystagmus. There is not the least sign of paralysis of the muscles of the extremities, but the facial muscles on the side operated on are paralyzed. These morbid phenomena preserved their intensity during many days, then they are enfeebled little by little. The facial paralysis persists as complete as on the day after the operation. It is seen that the troubles become more marked as the irritating agent goes more deeply, and acquire great violence when the cavity of the internal ear is attacked. The chloral by imbibition passes rapidly through the membranum tympani. The intensity of the motor troubles is due to irritation of the vestibule and semicircular canals.—*Gazette des hôpitaux*, Nov. 9, 1882.

FUNCTIONAL INDEPENDENCE OF EACH HEMISPHERE.—Dumont-pallier has demonstrated the functional independence of each hemisphere. Thus a subject, hystero-epileptic, with left dyschromatopsia and sensitive to pricking, in the left superior member, et cætera, was put into a state of somnambulism by pressure on the head, and ordered to knit, which she did in a regular manner with the two hands. Pressure exerted upon the left lateral part of the vertex arrested the movements of the left hand, the right continuing the work. Pressure upon the right side of the vertex arrested the movements of the right hand. Pressure upon the median région of the vertex awoke her. This demonstrated that the median pressure had a simultaneous reflex action upon the two cerebral hemispheres, whilst unilateral pressure had no more than a crossed unilateral reflex action upon the hemisphere of the side opposite to that upon which pressure had been exerted. In another experiment he proceeded as follows: The subject had left hemianesthesia for the superior region of the body and right hemianesthesia for the inferior region below the umbilicus, with left achromatopsia and right dyschromatopsia. This patient was put into a state of unilateral lethargy for the right superior region of the body, as was demonstrated by the calling out of cutaneo-muscular reflexes. By the action of light on the eyes, right unilateral catalepsy was induced. By pressure upon the median region of the vertex right unilateral somnambulism was induced. The movements of command are executed only by the right arm. In a second experiment, he applied upon the left frontal region a

metallic plate (aluminum). After three minutes of contact, transfer is produced, general and special sensibility are transferred to the left. The patient perceives on the left side colors, odors, and sound, with perception of taste on the same side. He induces then successively a state of lethargy, catalepsy, and somnambulism for the left superior part of the body, whilst the right side remains unmoved. In the first two experiments it results that hypnotism is only manifested on the side of the body where general and special sensibility actually exists; and as the sensibility perceived and the movement willed have their seat in the opposite cerebral hemisphere, it ensues that the peripheral irritation which brings back sensibility and motility on the paralyzed side of the body is able to do so only by acting upon the opposite hemisphere. The transfer of cerebral activity has taken place from the left hemisphere to the right. In a third experiment the patient being awakened Dumontpallier found that the sensibility of the left side had a tendency to pass to the right side of the body. Before this spontaneous transfer was completed, he applied a metallic plate to each side of the forehead, and soon the sensibility was found re-conveyed to both sides of the body. In this state all the phenomena of the three periods of hypnotism have been experimentally verified on both sides of the body. In the third experiment it is demonstrated that in fixing the sensibility of the two sides of the body by the application of plates upon the two sides of the forehead, there has been determined and maintained a peripheral irritation necessary for the activity of each cerebral hemisphere. The functional activity of each cerebral hemisphere has been shown by the preceding experiments. He also demonstrated in other experiments that the phenomena of suggestion in the cataleptic state may be different for the right and left side of the body; the one side of the face has an expression<sup>\*</sup> different to that of the opposite side. He also proved that in the state of somnambulism, the illusions and hallucinations may be different for each cerebral hemisphere. It is known that there is a great hesitation about the real origin of the olfactory nerves and their conjectural decussation. In these experiments upon crossed transmission of peripheral sensory impressions to the cerebral centres, the olfactory and auditory nerves act in the same manner as other sensory nerves. Hence experimental physiology demonstrates a total or partial decussation of the olfactory, auditory, and optic nerves.—*Gazette des hôpitaux*, No. 148, 1883.

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HYPNOTISM.—Drs. Tamburini and Seppilli have arrived at the following conclusions from their studies on hypnotism:—

i. That the cause of the nervo-muscular excitability characteristic of the state of lethargy, the plastic flexibility of the muscles in the state of catalepsy, and the general contracture in the state of somnambulism are no more than so many different manifestations of the increased excitability of the central motor apparatus,